

Express Mail Label No. EL00822715US

Date of Deposit 10/19/00

PATENT

Attorney Docket No. 17682A-005100

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Reissue Application of:)

U.S. Patent No. 5,824,796)

Inventors: Charles R. Petrie, Rich B. Meyer,
John C. Tabone and Gerald D. Hurst)

Serial No.: Not yet assigned)

Filed: Herewith)

For: CROSS-LINKING
OLIGONUCLEOTIDES)

REISSUE DECLARATION UNDER
37 C.F.R. § 1.175(a) AND POWER OF
ATTORNEY

BOX REISSUE APPLICATION

Assistant Commissioner of Patents
Washington, D.C. 20231

Sir:

We, Charles R. Petrie, Rich B. Meyer, John C. Tabone and Gerald D. Hurst
declare as follows:

1. Charles R. Petrie of 18459 NW 196th Place, Woodinville, Washington 98072, Rich B. Meyer of 3739 Hamilton Way, Redwood City, California 94062, John C. Tabone of 12117 NE 166th Place, Bothell Washington 98011 and Gerald D. Hurst of *address unknown*, are citizens of the United States of America.

2. The entire right, title, and interest to U.S. Patent No. 5,824,796, issued October 20, 1998, is vested in Epoch Biosciences, Inc., a Delaware corporation, by assignment. Epoch Biosciences, Inc. has a regular and established place of business in Redmond, Washington 98052. An assignment from us to Microprobe Corporation (now Epoch Biosciences, Inc.) was recorded on October 26, 1988 at Reel 4963, Frame 220 for parent application Serial No. 250,474 and on July 24, 1989 at Reel 5162, Frame 48 for parent application Serial No. 353,857.

3. We are the original, first and joint inventors of the invention described and claimed in the above-identified United States Letters Patent and the claims added by the above referenced reissue application, for which invention we seek a reissue of the aforesaid Letters Patent.

4. We do not know and do not believe that said invention was ever known or used in the United States of America before our invention thereof.

5. We do not know and do not believe that said invention was in public use more than one year prior to filing the original application for U.S. Patent No. 5,824,796.

6. We do not know and do not believe that the invention was on sale, within the meaning of 35 USC 102(b), in this country more than one year prior to the filing date of said original application.

7. We also believe the original patent to be partly or wholly inoperative or invalid because of error without deceptive intent on our part. We believe the original patent to be partly or wholly inoperative or invalid because we claimed less than that to which we had a right to claim in the patent. In particular we believe that it was error not to include those compounds in which the linking groups between the nucleic acid bases and the reporter groups were unsaturated alkyl chains, such as for example, C₂-C₁₂ alkenylene and C₂-C₁₂ alkynylene in the original patent. New claims 16 through 44 are now added as reissue claims. The errors which resulted in this application for reissue and resulted in such claims not being included in the original patent arose due to our failure to appreciate the extent to which the original claims included elements which unduly limited the scope of protection afforded our invention. Our original patent claims, see claims 1-15, for example, contained claims to oligonucleotides and compounds in which crosslinking groups and reporter groups are attached to the oligonucleotide or compound via a saturated alkylene chain that is optionally interrupted by a heteroatom (e.g., O, NH or S). We believe we are also entitled to claims drawn to intermediates in the preparation of the claimed compounds that terminate in a heteroatom or protected form thereof.

8. More specifically, in the original application, we failed to recognize and appreciate features and combinations of the invention which we invented and which we believe are patentable over the prior art. We have added new claims 16-44 to other oligonucleotides and compounds of modified pyrazolo[3,4-d]pyrimidines and other pyrimidine bases to correct our error in not so claiming in our original patent. We believe this occurred in part because our preferred embodiment was the cross-linking oligonucleotides, and we failed to recognize that certain intermediates and other species of labeled compounds and oligonucleotides could be claimed.

9. We have reviewed and understand the contents of the attached specification and claims, including the new claims as presented in this application for reissue of the original Letters Patent.

10. We acknowledge the duty to disclose information of which we are aware and which is material to the examination of this application for reissue of the original Letters Patent in accordance with 37 C.F.R. § 1.56.

11. The aforementioned errors in claiming less than we had a right to claim arose without any deceptive intention on our part and was only recognized as a result of comparing the issued claims with the business interests of Epoch Pharmaceuticals, Inc., now Epoch Biosciences, Inc.

12. We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

13. We hereby appoint the following attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith: William M. Smith, Reg. No. 30,223, William B. Kezer, Reg. No. 37,369, Eugenia Garrett-Wackowski, Reg. No. 37,330, Joseph R. Snyder, Reg. No. 39,381 and Kevin L. Bastian, Reg. No. 34,774.

14. Please send all correspondence to Townsend and Townsend and Crew LLP, ATTN: William B. Kezer, Two Embarcadero Center, 8th Floor, San Francisco, California 94111-3834. Direct all telephone calls to Mr. Kezer at (415) 576-0200.

15. This declaration may be executed in counterpart and by copy with the same force and effect as if executed as one complete and integrated document.

Full name of first inventor: Charles R. Petrie

Inventor's signature: Charles R. Petrie 10/16/2000

Date: 10/16/2000 Country of Citizenship: U.S.A.

Residence: 18459 NW 196th Place, Woodinville, Washington 98072

Full name of second inventor: Rich B. Meyer

Inventor's signature: _____

Date: _____ Country of Citizenship: U.S.A.

Residence: 3739 Hamilton Way, Redwood, California 94062

Full name of third inventor: John C. Tabone

Inventor's signature: _____

Date: _____ Country of Citizenship: U.S.A.

Residence: 12117 NE 166th Place, Bothell Washington 98011

Full name of third inventor: Gerald D. Hurst

Inventor's signature: _____

Date: _____ Country of Citizenship: U.S.A.

Residence: *Unknown*

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Serial No.: Not yet assigned)

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Full name of second inventor: Rich B. Meyer

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Date: _____ Country of Citizenship: U.S.A.

Residence: 3739 Hamilton Way, Redwood, California 94062

Full name of third inventor: John C. Tabone

Inventor's signature: John C. Tabone

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Full name of third inventor: Gerald D. Hurst

Inventor's signature: _____

Date: _____ Country of Citizenship: U.S.A.

Residence: *Unknown*

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PATENT
17682A-005100

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Reissue Application of:

Petrie et al.

Patent No.: 5,824,796

Issued: October 20, 1998

Application No.: Not Yet Assigned

Filed: Herewith

For: **CROSS-LINKING
OLIGONUCLEOTIDES**

REISSUE APPLICATION ASSENT BY
THE ASSIGNEE AND OFFER TO
SURRENDER PATENT

BOX REISSUE APPLICATION
Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

The undersigned assignee, Epoch Biosciences, Inc., of the accompanying reissue application for the reissue of letters patent entitled "CROSS LINKING OF OLIGONUCLEOTIDES," U.S. Patent No. 5,824,796, granted October 20, 1998, of which Epoch Biosciences, Inc. is the sole owner by assignment, and on whose behalf and with whose assent the accompanying reissue application is made, hereby offers to surrender said Letters Patent. An order for title report is enclosed herewith.

EPOCH BIOSCIENCES, INC.

Date: 16 Oct 2000

By: William G. Gerber

Name: William G. Gerber

Title: CEO

SF1142430

10853 U.S. PTO
09/693213
10/19/00

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PATENT
17682A-005100

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Reissue Application of:

Petrie et al.

Patent No.: 5,824,796

Issued: October 20, 1998

Application No.: Not Yet Assigned

Filed: Herewith

For: **CROSS-LINKING
OLIGONUCLEOTIDES**

ASSENT BY ASSIGNEE FOR FILING
REISSUE APPLICATION, AND
STATEMENT UNDER 37 C.F.R. § 3.73(b)

BOX REISSUE APPLICATION
Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Epoch Biosciences, Inc. is the assignee of one hundred percent (100%) interest in the above-identified original United States patent. Epoch Biosciences, Inc. hereby assents to the accompanying application for reissue.

Epoch Biosciences, Inc.

By: W. S. Suler

Date: 16 OCT 2000

SF1142727

Jc853 U.S. PTO

09/693213



[illegible]

Epoch Biosciences, Inc.

Date: 16 OCT 2000

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS
(37 CFR 1.9(f) & 1.27(c)) - SMALL BUSINESS CONCERN

Applicant or Patentee: Charles R. Petrie, Rich B. Meyers, John C. Tabone and Gerald D. Hurst
 Application or Patent No.: 5,824,796
 Filed or Issued: October 20, 1998
 Title: CROSS-LINKING OLIGONUCLEOTIDES

I hereby declare that I am:

- ☐ the owner of the small business concern identified below:
☐ an official of the small business concern empowered to act on behalf of the concern identified below.

Name of Small Business Concern: Epoch Biosciences, Inc.
 Address of Small Business Concern: 12277 134th Court NE Suite 110
Redmond, WA 98052

I hereby declare that the above-identified small business concern qualifies as a small business concern as defined in 13 CFR 121.12, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees to the United States Patent and Trademark Office, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention, entitled **CROSS-LINKING OLIGONUCLEOTIDES** by inventor(s) **Charles R. Petrie, Rich B. Meyer, John C. Tabone and Gerald D. Hurst** described in:

- ☐ the specification filed herewith;
☐ Application No. _____, filed _____;
☐ Patent No. _____, issued _____.

If the rights held by the above identified small business concern are not exclusive, each individual, concern or organization having rights in the invention is listed below* and no rights to the invention are held by any person, other than the inventor, who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person made the invention, or by any concern that would not qualify as a small business concern under 37 CFR 1.9(d), or a nonprofit organization under 37 CFR 1.9(e).

*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

Name: _____
 Address: _____

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

Name: _____
 Address: _____

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Name of Person Signing: William G. Gerber, M.D.
 Title of Person if Other than Owner: Chief Executive Officer
 Address of Person Signing: 12277 134th Court NE Suite 110
Redmond, WA 98052

Signature:  Date: 16 OCT 2000